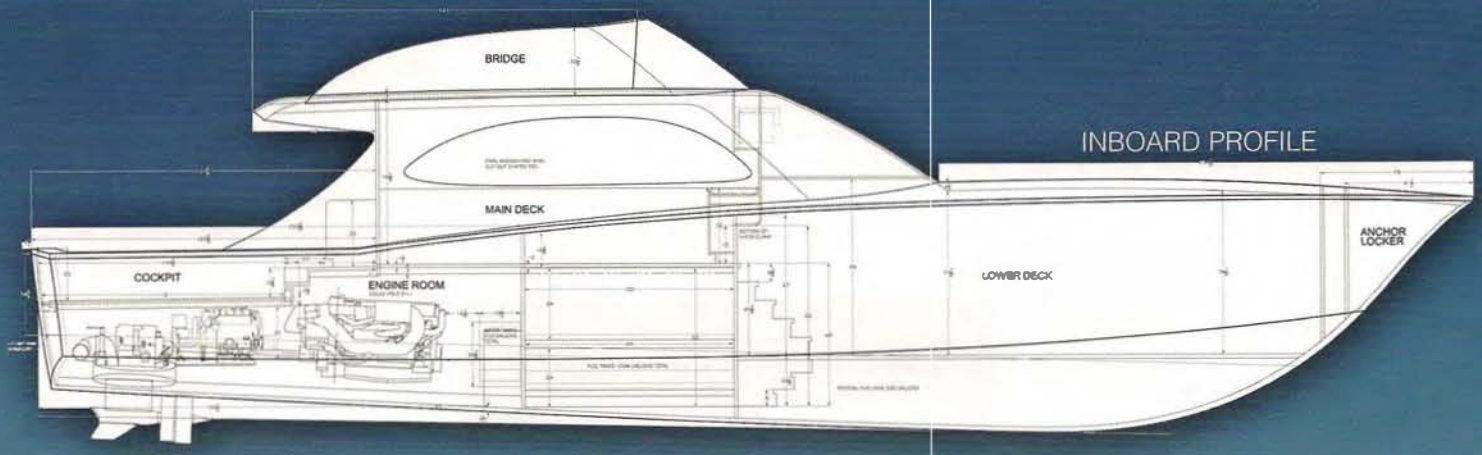

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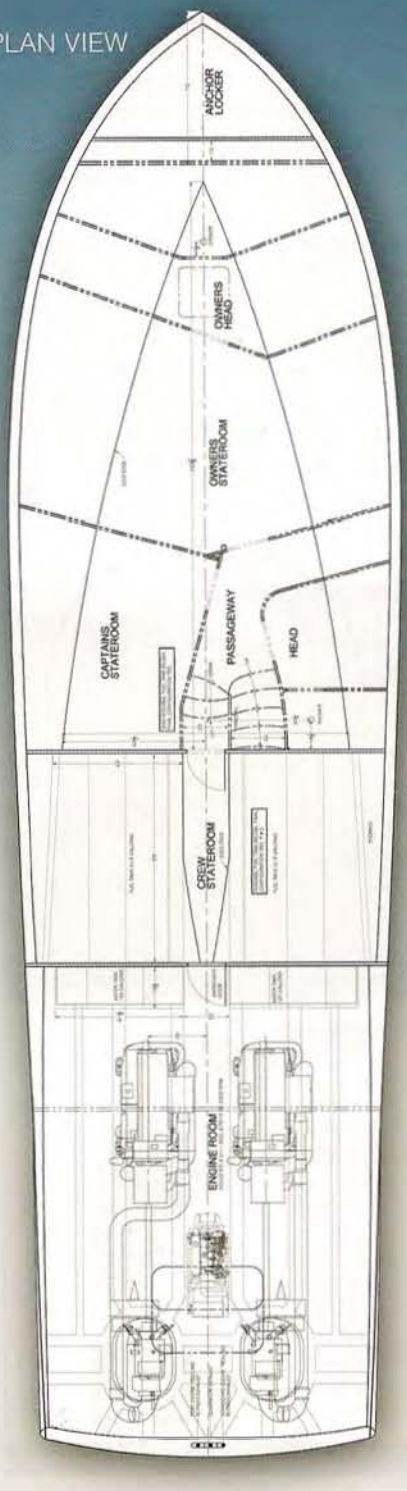


PLAN VIEW

Pod Drives

Challenging the Economy and Performance of Conventional Shafts and Rudders?

By Sam White

In just a few short years, pod drives have revolutionized marine propulsion in the cruising and long-range trawler market segments, yet the sportfishing world has been slower in coming around to the concept. Are these new drives the next greatest hit or just another over-hyped techno-dream?

Pod drive systems trace their roots to heavy-duty commercial applications in vessels like cruise ships and large oceangoing tugs where they greatly increased both efficiency and maneuverability. In a pod application the entire propulsion system rotates, providing vectored thrust; in contrast, a standard shaft-and-propeller system only forces water in two directions (fore and aft), relying on rudders to deflect the thrust and provide steerage. Because of their ability to provide vectored thrust and also to operate independently under computer control, pod drives can bring greatly improved maneuverability to the table, especially when combined with a joystick controller at the helm. A simple twist of the joystick is enough to send the boat spinning like a ballerina in just about any direction. Pods also have less hydrodynamic drag than shafts, struts and rudders and are mounted higher in the hull through the use of tunnels, further reducing drag and increasing efficiency as the hull slides through the water.

The two most popular systems for marine applications are the Zeus by Cummins MerCruiser Diesel and Volvo Penta's IPS, with the most obvious differences being the positioning of the propellers: the Zeus has rear-facing props while IPS is forward-facing. Both utilize a twin-propeller, counter-rotating design.

Jarrett Bay 46

One project that's receiving a lot of attention these days is taking place at Jarrett Bay in North Carolina, where NASCAR driver Jeff Burton is having a custom 46-footer built with pods. Since one of Burton's primary sponsors is CAT®, it's only natural to find a pair of C9 ACERTS in this boat but according to Gary Davis, the chief designer and project manager at Jarrett Bay Boatworks, it's their first build using the new drive systems. "We're looking forward to seeing what this boat will be able to achieve in her sea trials," he says, "but we anticipate a top end of 34 to 35 knots and a 30-knot cruise with 575hp per side, plus mind-

blowing maneuverability with the pods." Davis adds that he would expect a conventional shaft-and-rudder boat to need roughly 25 percent more horsepower to achieve the same performance. "It's really a snowball effect: with the efficiency of the pods, we can get similar performance with smaller motors, which weigh less and burn less fuel. You don't have to carry as much fuel in order to have the same range, which lightens the boat and makes it that much more efficient," he adds.

Viking Yachts 42

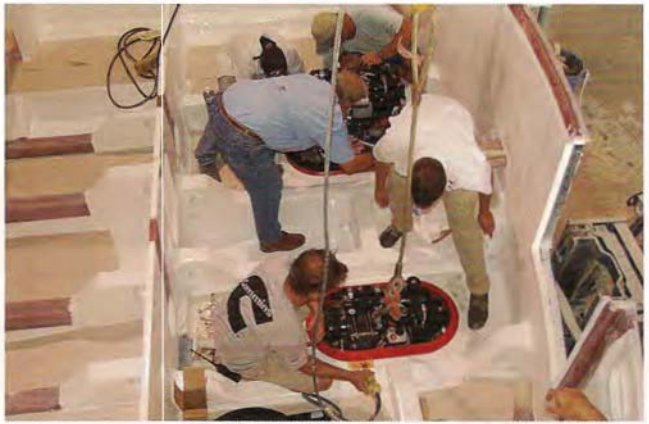
Another boatbuilder making their first foray into pod drives is Viking Yachts with a 42-foot Convertible headed down the production line in New Gretna, New Jersey. Their boat is equipped with the Cummins MerCruiser Diesel QSB 5.9ltr engines and Zeus 3000 Series drives as standard power. Her sistership, a 42 Express, is slated ro follow in short order. Peter Frederiksen, director of communications for Viking, said the propulsion system allowed them to better utilize the space available. "This boat is designed ro have the engines mounted entirely under the cockpit sole, freeing up substantially more room in the interior compared to a standard inboard package," he says. "We'll have room for either two or three staterooms, two heads and a huge salon in the Convertible, which is virtually unheard-of in a 42-foot boat. Plus, there's no worry about things like cutlass bearings and proper shaft alignment with pods, either. They're very smooth and remarkably quiet since there's no shaft turning through the water."

Of course, there are a number of both production and custom builders that have pod boats either on the drawing board or already out fishing the circuit, including Paul Spencer, Cabo Yachts, Ritchie Howell, Rampage, Mikelson and others. There's even a pod-powered 45-foot catamaran called the Hydra that's turning heads in the canyons of the Northeast.

In addition ro efficiency and joystick maneuverability, there are many other benefits offered by both the Cummins

NASCAR driver Jeff Burton is building the first 46' Jorrett Boy equipped with a pair of 575 hp CAT C9 ACERTS ond Zeus pod drives with on estimated 30 knot cruise.

Viking Yachts 42' convertible will feature the company's first pod drive model utilizing the Zeus 3000 series drives powered by 480 hp Cummins engines with on estimated 30 knot cruise.



MerCruiser and Volvo Penta packages, like the CMD Zeus' built-in autopilot, trim tabs and Skyhook station-keeping feature, which will keep the boat perfectly positioned in place with the touch of a button.

So what about drawbacks? Viking's Frederiksen cited new technology as a possible reason for resistance in the sportfishing side. "It wasn't too long ago that people didn't want bow thrusters in their boats — now just about every sportfishing boat has one," he says. "The same thing happened when the first chartplotters came out, we were afraid to really embrace the new technology. There will always be those who prefer the tried-and-true methods and that's fine because every boat is a trade-off in one way or another. I think we'll always build a Viking with shafts and rudders but we'll also have pods as an option as well."

Capt. Karl Anderson has plenty of pod experience, and yet he also has a reservation or two about the new drive systems. "Pods can make an inexperienced captain look good but I don't believe that they can 'think' as fast as I can at the helm," he says. "Personally, I'd rather have the low range torque of an inboard boat with widely spaced wheels and rudders. Plus, once the boats get over 60 feet or so, you start looking at a triple- or quad-pod system, which brings up issues about expense, maintenance and overall reliability. Would you rather take care of two engines or three or four pods?"

So to answer the question about pods challenging the economy and performance of conventional shafts and rudders, the answer is a bit of both. The family tree of marine propulsion now has a few interesting branches — whether pod drives are the right choice for a particular application is a decision that's a very personal one in the end.

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